

REMARKS

This is intended as a full and complete response to the Office Action dated October 12, 2010, having a shortened statutory period for response set to expire on February 14, 2011 with one month Extension. Please reconsider the claims pending in the application for reasons discussed below.

Claims 1-20 and 22-44 remain pending in the application and are shown above. Claim 21 has been cancelled by Applicant without prejudice. Claims 1-43 stand rejected by the Examiner. Reconsideration of the rejected claims is requested for reasons presented below.

Claim 1 is amended to clarify the claimed subject matter. Basis for amendment to claim 1 can be found in original claim 21 and paragraphs [0029], [0050], and [0062] of the Specification as shown in US publication 2008/0230694. Claim 22 is rewritten in independent form. New claim 44 is added to include subject matter not previously included. Basis for new claim 22 can be found in paragraph [0087] of the Specification as shown in US publication 2008/0230694. Claims 5-6, 10, 13-16, 23-24, and 27-28 are amended for matters of form. Applicant respectfully submits that no new matter has been introduced in this amendment.

Priority

The Examiner indicated that a certified copy of the EP application has not filed. Applicant respectfully submits that a certified copy was filed on December 13, 2004 in the international phase of this application and the certified copy is available through the WIPO website. Exhibit A shows a certified EP application with a time stamp of December 13, 2004 by WIPO.

Claim Objection

The Examiner objected to claim 10 for informality. Applicant submits that claim 10 is amended accordingly. Withdrawal of the objection is respectfully requested.

Claim Rejections – 35 U.S.C. § 102

Claims 1-43 stand rejected under 35 U.S.C. § 102(b) as being anticipated by *Essers* (U.S. Patent No. 6,590,210, hereafter *Esser*). Applicant respectfully traverses this rejection.

Essers teaches a scanning electron microscope including one or more pressure stage apertures and a detector that receives secondary electrons from a specimen (Abstract). However, *Essers* does not teach or suggest the subject matter set forth in the pending claims as amended.

Regarding claim 1 and its dependent claims 2-20 and 27-44, *Essers* does not teach or suggest at least one out of first or second electrodes is shaped to comprise multiple openings for focusing a charged particle beam or multiple openings may be replaced by each other without breaking vacuum, as set forth in amended claim 1.

In rejection against original claim 21 (now incorporated in claim 1), the Examiner indicates that *Essers* teaches an electrode comprising multiple openings in Figure 4. Applicant respectfully disagrees. Figure 4 of *Essers* shows two pressure stage apertures 44 and 18 and each pressure stage aperture 44, 18 has only one central opening (column 11 lines 23-61). Either electrode 44 or electrode 50 in Figure 4 includes multiple openings. Applicant submits that, in Figure 5 of *Essers*, a central passage 41 and several passages 36 are formed through the part 42. However, the several passages 36 of *Essers* are intended not for focusing the particle beam as in claim 1, but for allowing passages of the secondary electrons towards the detector 74 (column 7 lines 12-17 and column 13 lines 17 – 25).

An electrode comprising multiple openings, as set forth in the pending claims, provides a variety of advantages. For example, optical properties of a charged particle beam may be modified without breaking vacuum by (1) changing from a large opening to a small opening in the same electrode to change the focusing length and/or reduce beam aberration, or (2) changing from an opening with a thick rim to an opening with a thin rim to change the principal plane of the charged particle lens, thus, realizing an optical zoom.

During a telephone interview on January 21, 2011, the Examiner also indicated that embodiments of the present invention are distinct from *Esser* for allowing adjustment to alignment without breaking the vacuum.

Accordingly, Applicant submits that *Essers* does not teach or suggest an electrode having multiple openings for focusing the charged particle beams or the multiple openings may be replaced by each other without breaking vacuum, as set forth in amended claim 1, and claims dependent thereon.

Regarding independent claim 22 and its dependent claims 23-26, *Essers* does not teach or suggest an electrode having multiple openings for focusing the charged particle beams as discussed above.

Additionally, *Essers* also does not teach or suggest that the distance of at least one of the multiple openings to an opening of an adjacent electrode in axial direction is larger by at least ten percent compared to the distance in axial direction of at least one of the other of the multiple openings to said opening, as set forth in the original claim 22. In rejection against claim 22, the Examiner indicates the *Essers* anticipate claim 22 because the distance between 18 and 44 is at least 10% larger than the distance between 50 and 44 in Figure 4. Applicant respectfully disagrees. Element 44 is a pressure stage aperture centered on a bore of electrode 50 (column 11 lines 39-41). Elements 44 and 50 of *Essers* belong to the same electrode. The distance between 44 and 50 is not a distance between openings of adjacent electrodes as set forth in claim 22.

Therefore, claims 1-20 and 22-44 as amended are patentable over *Essers*. Withdrawal of this rejection is respectfully requested.

Double Patenting

Claims 1-43 stand rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1 to 20 of U.S. Patent No. 7,675,042 (hereafter *Patent' 042*).

Applicant respectfully submits that pending claims 1-20 and 22-44 as amended includes an element that "at least one out of the first and second electrodes is shaped to comprise multiple openings for focusing a charged particle beam". Claims 1-20 of *Patent'042* do not recite an electrode comprising multiple openings. Accordingly, pending claims 1-20 and 22-44 as amended are not obvious in view of claims 1-20 of *Patent' 042*. Withdrawal of this rejection is respectfully requested.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed.

Having addressed all issues set out in the office action, Applicant respectfully submits that the claims are in condition for allowance and respectfully request that the claims be allowed.

Respectfully submitted,

By 

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